

VILKOV, I.M.

Distribution of reaction pressures under a rigid foundation on  
a double layered base. Osn. fund. i mekh. grun. 5 no.3:4-6 '63.  
(MIRA 17:1)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VILKOV, I.M.; MAEARGOV, N. . .

Study of the deformations of the foundations of buildings.  
Sbor. trud. MItesn. no.5, 1963, p. 12.  
(10 p.)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

VILKOV, K. I.

Vilkov, K. I.

"Investigation of the Hardness and Fissure Formation of Curved Reinforced-Concrete Parts of T and I Cross Section." Min Higher Education USSR.  
Gor'kiy Construction Engineering Inst imeni V. P. Chkalov.. Chair of Reinforced Concrete and Stone Structures Gor'kiy, 1955. (Dissertation for the Degree of Candidate Technical Sciences.)

Knizhnaya Letopis': No. 27, 2 July 1955.

VILKOV, L. V.

USSR/ Chemistry - Analytical chemistry

Card 1/1 Pub. 12 - 29/51

Authors : Akishin, P. A.; Vilkov, L. V.; and Spiridonov, V. P.

Title : Electronographic study of the molecular structure of zinc halides  
 $ZnCl_2$ ,  $ZnBr_2$  and  $ZnJ_2$

Periodical : Dok. AN SSSR 101/1, 77-80, Mar 1, 1955

Abstract : The advantages of the electronographic method for the study of molecular structures of inorganic compounds are analyzed. Electronographic study of  $ZnCl_2$ ,  $ZnBr_2$  and  $ZnJ_2$  molecules showed that all possess a linear structure. This configuration was seen to correspond to the valent state of the central Zn-atom. It was observed that the interatomic spaces in the Cl, Br and J-derivatives of zinc vary in accordance with the linear law depending, of course, upon the ordinal number of the halide. The values of the interatomic spaces are tabulated. Six references: 2 USSR, 1 English, 1 German and 2 USA (1934-1953). Tables; graphs.

Institution : The M. V. Lomonosov State University, Moscow

Presented by : Academician N. N. Semenov, September 22, 1954

VILKOV, L. V. Cand Chem Sci -- (diss) "Certain laws ~~of~~ variation of lengths  
~~in~~ bonds of carbon-halogen. (Electronographic study of the molecular structure  
of certain halogen-producing organic compounds)" Mos, 1957. 16 pp 20 cm  
(Mos State Univ im M. V. Lomonosov), 110 copies. (KL, 24-57, 115)

-11-

VILKOU, L.V.

SECRET A  
Soviet political situation in Central America  
disturbances in Central America  
and the effect of the  
U.S. intervention

Soviet political situation in Central America  
the U.S. intervention  
Two factors in general  
length in the most striking aspect the violence of Guatemala  
and the effect of the protest groups and first of all Communists  
connected directly to the Communists M. Churevuderman

Moscow, 1960 - 1st stage 61-2

*VILKOV, L.V.*

AUTHORS: Akishin, P. A., Vilkov, L. V., Tatevskiy, V. M. 20-1-33/58

TITLE: Electron Diffraction Study of the Chloroprene Molecule  
(Elektronograficheskoye issledovaniye stroyeniya molekuly khloroprena).

PERIODICAL: Doklady AN SSSR 1958, Vol. 118, Nr 1, pp. 117-120 (USSR)

ABSTRACT: The task of the present work is the determination of the spacial configuration and the geometric parameter of the chloroprene molecule by means of the method of the diffraction of quick electrons with a vapour jet of the substance to be investigated. The apparatus for the taking of electronograms was already described in a preliminary work (ref. 1). With long waves of electrons of from 0,0520 to 0,0540 Å 7 series of electronograms were obtained. With these electrons 8 maxima and 7 minima were measured by means of visual evaluation of their intensity. From the experimental data obtained and given in a table the curve of radial distribution was constructed. The calculation made with a variation of the values of the intensity of the extremes proved the reliability of the curve of radial distribution. The attachment of the peaks of the curve of radial distribution to interatom distances in the chloroprene molecule arranged by the authors is

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## • Electron Diffraction Study of the Chloroprene Molecule.

20-1-33/58

mentioned here. Then the theoretic curves of intensity of various models (the structure parameters of which are mentioned in a table) are calculated according to the method of successive approximation. Not with all models the theoretic intensity curves coincide with the experimental curve of scattered electrons. This non-coincidence exists e.g. for the plain transisomer, the plain zis-isomer as well as for the rotated isomer with a rotation of the vinyl-groups by 90° around the C<sub>2</sub> - C<sub>3</sub> group. The best coincidence is obtained for the plain model of the chloroprene molecule with trans-position of double compounds and C<sub>1</sub>C<sub>2</sub>C<sub>3</sub>- and C<sub>2</sub>C<sub>3</sub>C<sub>4</sub>- angles differing by 5°, as well as for the non-plain model of the molecule with a rotation of the vinyl-groups around the only C<sub>2</sub>-C<sub>3</sub>-compound by 32° (rotation from the trans-position) and with equal C<sub>1</sub>C<sub>2</sub>C<sub>3</sub>- and C<sub>2</sub>C<sub>3</sub>C<sub>4</sub>- angles. The main parameters of the two latter models coincided completely with the interatom distances obtained from the curve of radial distribution. The two most probable structures resulting from the electronographic investigation of the structure of the chloroprene molecule are given with their numeric parameters. The double carbon compounds in the chloroprene molecule have a trans-figuration or a similar configuration, which coincides with

Card 2/3

Electron Diffraction Study of the Chloroprene Molecule.

20-1-33/58

the earlier obtained infrared- and ultraviolet spectra of chloroprene. There are 3 figures, 2 tables, and 11 references, 3 of which are Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova).  
PRESENTED: January 3, 1957, by N. N. Semenov, Academician.  
SUBMITTED: December 29, 1956  
AVAILABLE: Library of Congress

Card 3/3

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VILKOV, L. V.

MATVIEV, P. A.; VILKOV, L. V.

"Electron Diffraction Study of Some Halogenated Organic Compounds  
and Regularities in the Intertatomic Distances Carbon - Halogen"

a report presented at Symposium of the International Union of  
Crystalllography Lundagrad, 21-27 May 1999

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

5(4), 24(7)  
AUTHORS:

Akishin, P. A., Vilkov, L. V., Vesnin, Yu. I. Sov/20-126-2-23/64

TITLE:

The Electromagnetic Investigation of the Structure of the Molecules  
of Vinyl Chloride and Trifluorochlorethylene (Elektronograficheskoye  
issledovaniye stroyeniya molekul khloristogo vinila i  
triflorkhloretilema)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2 pp 310-313 (USSR)

ABSTRACT:

Knowledge of the molecular structure of vinyl chloride  $C_2H_3Cl$  and  
trifluorochlorethylene  $C_2F_3Cl$  is of essential interest for  
understanding the mechanism of their polarization and also for the  
purpose of explaining some problems of molecular structure. This  
includes especially the conception of double bond. All unsettled  
questions concerning the structure of the molecule  $C_2H_3Cl$  arise  
apparently also in the case of the molecule of  $C_2F_3Cl$ . The  
electronograms of the vapors of  $C_2H_3Cl$  and  $C_2F_3Cl$  were taken by  
means of an earlier described (Ref 5) electromograph. These  
electronograms were then evaluated by visual evaluation of intensity  
according to the method of radial distribution (curves  $rD(r)$ ) and

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The Electromagnetic Investigation of the Structure of the SOV/20-126-2-23/64  
Molecules of Vinyl Chloride and Trifluorochlorethylene

successive approximations (curves I(s)). For vinyl chloride vapors (boiling point -13.8°) a total of 7 series of electronograms was recorded. From the data given in a table the experimental curve was then derived, and from it the radial distribution curve was calculated. The main peaks of this curve corresponds to the following interatomic distances: 1) 1.32 Å r(C = C); 2) 1.72 Å r(C - Cl), and 3) 2.71 Å r(C...Cl). By the method of successive approximations the distance r(C = C) was essentially precisely defined. The following parameters were determined for the molecule of vinyl chloride:  $r(C - C) = 1.32 \pm 0.02 \text{ \AA}$ ;  $r(C - Cl) = 1.72 \pm 0.01 \text{ \AA}$ ;  $\angle C-C-Cl = 125 \pm 2^\circ$ ;  $r(C - H) = 1.07 \text{ \AA}$ , and for  $\angle HCH = \angle HCCl = 120^\circ$  is assumed. A total of 9 series of electronograms was recorded of the vapors of  $C_2F_3Cl$ . On the basis of experimental data the experimental intensity curve was then constructed. The inner part of the diffraction picture was so diffuse that the 3 visually found maxima could not be measured. The curve of radial distribution was derived from the experimental intensity curve. The peaks of the curve  $r D(r)$  belong to the following interatomic distances in the molecule

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$r(C-C) = 1.32 \text{ \AA} - r(C-F)$  and  $r(C = C), 1.72 \text{ \AA} - r(C - Cl); 2.32 \text{ \AA} - r(C..F),$

The Electromagnetic Investigation of the Structure of the SOV/20-126-2-23/64  
Molecules of Vinyl Chloride and Trifluorochlorethylene

$r = (F..F')$ ;  $2.67 \text{ \AA} = r(Cl..F)$ ;  $r(C...Cl)$ ,  $r(F'..F^*)$ ;  $3.07 \text{ \AA} = r(Cl..F)$ ;  $3.57 \text{ \AA} = r(C..F^*)$ ;  $3.93 \text{ \AA} = r(Cl..F')$ . In the halogen derivatives of ethylene the length of the C-C bond does not increase but rather decreases. No systematic variations of the length of the C-Cl-bond (as a function of the number of halogen atoms) were observed. There are 4 figures, 4 tables, and 9 references, 4 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: February 5, 1959 by V. N. Kondrat'yev, Academician

SUBMITTED: February 2, 1959

Card 3/3

SOV/70-4-3-11/32

AUTHORS: Akishin, P.A., Vilkov, L.V. and Rosolovskiy, V.Ya.

TITLE: Investigation of the Structures of Molecules of Perchloric Acid and Perchloric Anhydride

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 5, pp 555-559 (USSR)

ABSTRACT:  $\text{HClO}_4$  was made by distilling  $\text{HClO}_4 \cdot 2\text{H}_2\text{O}$  in vacuo with oleum.  $\text{Cl}_2\text{O}_7$  was made by reacting  $\text{HClO}_4$  with  $\text{P}_2\text{O}_5$  and distilling at  $\sim 34^\circ$  and 2 mm Hg. Electronograms were taken as described earlier (A.V. Frost et al. .. Ref 5) and interpreted in two ways: a) by transformation to radial density distributions and b) by trial and error involving comparison of observed and calculated scattering curves. Calculations were made on the Strela machine. For  $\text{HClO}_4$  23 electronograms were taken for  $\lambda = 0.052 - 0.062 \text{ \AA}$ . Intensity curves showed 10 peaks and led to final molecular dimensions of: ( $\text{Cl} = \text{O}$ )  $1.42 \pm 0.01 \text{ \AA}$ ; ( $\text{Cl} - \text{O}$ )  $1.64 \pm 0.02 \text{ \AA}$  and ( $\text{O}-\text{Cl}-\text{O}$ )  $100^\circ \pm 2^\circ$ . H-positions were not found. There

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Investigation of the Structures of Molecules of Perchloric Acid and  
Perchloric Anhydride

SOV/70-4-3-11/32

are three Cl = O bonds and one Cl - O in the  $\text{HClO}_4$  molecule which has the symmetry  $C_{3v}$ .

For  $\text{Cl}_2\text{O}_7$  a series of 32 electronograms showed 8 peaks. The molecule  $\text{O}_3\text{Cl}-\text{O}'-\text{ClO}_3$  was found to have the following dimensions: (Cl = O) (in the  $\text{ClO}_3$  groups)  $+ 424 \pm 0.01 \text{ \AA}$ ; (Cl - O')  $1.725 \pm 0.03 \text{ \AA}$ ;  $\angle(\text{ClO}'\text{Cl}) 115^\circ \pm 5^\circ$ ;  $\angle(\text{O}\text{ClO}') 97 \pm 3^\circ$ . The molecule appears to have only one plane of symmetry (containing the two Cl atoms and the middle O' atom) with the  $\text{ClO}_3$  groups in opposite orientations. It is significant that these two molecules each have two different Cl-O bond distances whereas the  $\text{ClO}_4^-$  ion is tetrahedral. In  $\text{HClO}_4$  and  $\text{Cl}_2\text{O}_7$  the height of the  $\text{ClO}_3$  pyramid ( $\sim 0.2 \text{ \AA}$ ) is near to the normal oscillation amplitude along the Cl-O bond and hence the

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SOV/70-4-3-11/32  
Investigation of the Structures of Molecules of Perchloric Acid and  
Perchloric Anhydride

molecules can easily dissociate to form active complexes.  
Acknowledgments are made to V.I. Mikheyeva and  
A.A. Zinov'yev. There are 5 figures, 4 tables and  
14 references, of which 6 are Soviet, 5 German, 1 English  
and 2 Scandinavian.

ASSOCIATIONS: Moskovskiy gosudarstvennyy universitet im.  
M.V. Lomonosova (Moscow State University imeni N.V.Lomonosov)  
Institut obshchey i neorganicheskoy khimi (Institute  
of General and Inorganic Chemistry)

SUBMITTED: February 10, 1959

Card 3/3

AKISHIN, P.A.; VILKOV, L.V.; SOKOLOVA, N.P.

Electronographic analysis of the structure of molecules of  
monochloro and monobromodimethyl ethers. Izv.Sib.otd.AN SSSR  
no.5:59-65 '60. (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova  
i Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR.  
(Methyl ether) (Electron diffraction examination)

AKISHIN, P.A.; VILKOV, L.V.; ROSOLOVSKIY, V.Ya.

Electron diffraction study of the structure of vapor molecules of  
nitric acid and nitric anhydride. Zhur. strukt. khim. 1 no.1:5-11  
Je '60. (MIRA 13: 8)

1. Moskovskiy gosudarstvennyy universitet imeni m.V.Lomonosova i  
Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AM  
SSSR.

(Nitric acid) (Nitrogen oxide)

VILKOV, L. V.; ZASORIN, Ye. Z.; RAMBIDI, N. G.; SPIRIDONOV, V. P.

"Electron Diffraction Investigation of the Molecular structure of Some Gaseous Oxides"

SUMMARY: There exists very little data in the literature on the structure and geometrical parameters of gaseous oxides of various elements. However, the Diffraction Laboratory of the Department of Chemistry of Moscow University carried out systematic electron-diffraction investigations of the geometry of various oxides in the vapor state, and in this paper the authors give us the results of the electron-diffraction study of the following gaseous oxides:

$\text{Li}_2\text{O}$ ,  $\text{B}_2\text{O}_3$ ,  $\text{P}_4\text{O}_{10}$ ,  $\text{Sb}_4\text{O}_6$ , and  $\text{Cl}_2\text{O}_7$

Report to be submitted at the International Conference on Magnetism and Crystallography, Kyoto, Japan, 25-30 Sept 1961

Moscow State University

AKISHIN, P.A.; VILKOV, L.V.; MOCHALOVA, N.I.

Electron diffraction examination of the structure of molecules  
with conjugated multiple bonds. Part 1: $\alpha$ -chloroacrolein and  
methylglyoxal. Zhur.strukt.khim. 2 no.5:545-550 S-0 '61.

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.  
(Acrolein) (Glyoxal) (MIR 14:11)

VILKOV, L.V.; AKISHIN, P.A.; PRESNYAKOVA, V.M.

Electron diffraction study of the structure of molecules of  
trivalent nitrogen compounds: dimethylformamide and N-methylpyrrole.  
Zhur.strukt.khim. 3 no.1:5-9 Ja-F '62. (MIRA 15:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.  
(Nitrogen compounds) (Electron diffraction examination)

MASTRYUKOV, V. S.; VILKOV, L. V.; AKISHIN, P. A.

"Electron-diffraction study of some organoelement compounds."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome,  
9 Sep 63.

Chemical Dept, Moscow State Univ.

SADOVA, N. I.; VILKOV, L. V.

"On the dependence of the length of the central carbon-carbon bond on the angle of the twist of the conjugated groups."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome,  
9 Sep 63.

Chemical Dept, Moscow State Univ.

VOL'PIN, M.Ye.; STRUCHKOV, Yu.T.; VILKOV, L.V.; MASTRYUKOV, V.S.;  
DULOVA, V.G.; KURSANOV, D.N.

Structure of the products obtained in the reaction of acetylene  
with bivalent derivatives of germanium. Izv. AN SSSR. Ser.  
khim. no.11:2067 N '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

VILKOV, L.V.; MASTRYUKOV, V.S.; AKISHIN, P.A.

Electron diffraction study of the structure of a decaborane  
molecule in the vapor state. Zhur.strukt.khim. 4 no.3:323-326  
My-Je '63. (MIR 16:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
(Boron hydrides) (Electron diffraction examination)

VILLIN, L.V.; MASTRYUKOV, V.S., AXISHIN, P.A.

Electron diffraction study of the structure of the vinylchlorosilane molecule. Zhur.strukt.khim. 5 no. 2:183-187 Mr-Ap '64.  
(MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 24782-65 EPF(c)/EWP(j)/EWT(m) Pe-4/Pr-4 RM  
ACCESSION NR: AP4049609 S/0076/64/038/011/2674/2675

28  
27  
B

AUTHOR: Vilkov, L. V., Gorokhov, L. N., Mastryukov, B. S.; Rusin, A. D.

TITLE: Molecular mass and mass spectrum of the vapors Ge(C<sub>2</sub>H<sub>2</sub>)(CH<sub>3</sub>)<sub>2</sub>

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 11, 1964, 2674-2675

TOPIC TAGS: molecular mass, Ge(C<sub>2</sub>H<sub>2</sub>)(CH<sub>3</sub>)<sub>2</sub>, mass spectrum, dimeric molecule, vapor, monomeric ion

ABSTRACT: The authors have investigated the mass spectrum, and determined the molecular mass of the vapors of Ge(C<sub>2</sub>H<sub>2</sub>)(CH<sub>3</sub>)<sub>2</sub> with the mass spectrometer MI-1305. The spectrum indicates the presence of dimeric molecules with the mass numbers 252-265, 237-249, 211-223, and 115-121, which are assigned to various ions. Particularly strong is the group of lines 85-91 [ Ge(CH<sub>3</sub>)<sup>+</sup>-ion]. The monomeric ion was not detected. The average molecular mass is 234. "The author is grateful to M. E. Vol'pin and Dulova for discussions." Orig. art. has: 1 figure.

Card 1/2

L 24782-65  
ACCESSION NR: AP4049609

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonova,  
Khimicheskiy fakul'tet (Moscow State University, Chemistry Department)

SUBMITTED: 14Aug63

ENCL: 00

SUB CODE: ME, GP

NO REF SOV: 003 OTHER: 001

Card 2/2

ACC NR: A17005112

SOURCE CODE: UR/0020/66/168/004/0810/0813

VILKOV, L. V., KHAYKIN, L. S., Moscow State University imeni M. V. Lomonosov  
(Moskovskiy gosudarstvennyy universitet)

"Electron-Diffraction Study of the Structure of Dimethylamidodichlorophosphine  
and Dimethylamidodichlorophosphine Oxide Molecules in the Vapor State"

Moscow, Doklady Akademii Nauk SSSR, Vol 168, No 4, 1966, pp 810-813

**Abstract:** The configuration of the bonds of the nitrogen atom connected to the phosphorus atom was determined in an electron-diffraction sector-microphotometric investigation of dimethylamidodichlorophosphine and dimethylamidodichlorophosphine oxide. It was found that under the influence of the phosphorus atom, the configuration of the bonds of the nitrogen atom changes from essentially pyramidal in  $(CH_3)_3N$  ( $109^\circ$ ), planar in  $(CH_3)_2NPCl_2$  ( $120^\circ$ ), and near planar in  $(CH_3)_2NPOCl_2$  ( $116^\circ$ ). A substantial increase in the length of the P-Cl bond is observed in  $(CH_3)_2NPCl_2$  in comparison with  $PCl_3$ . The length of the P-N bond, determined for the first time, is substantially less than that calculated from the covalent radii and according to the Shoemaker-Stevenson equation. In  $(CH_3)_2NPCl_2$ , the basic rotational isomer takes an "unprofitable" form from the standpoint of steric interactions. The stability of this form is explained by the substantial electrostatic interactions of the Cl atoms and  $CH_3$  groups. This article was presented by Academician M. I. Kabachnik on 11 October 1965. Orig. art. has: 1 figure and 3 tables. [JPRS: 38,970]

Card 1/2

UDC: 541.63

ACC NR: AP7005112

TOPIC TAGS: alkylphosphine, electron diffraction

SUB CODE: 07 / SUBM DATE: 21Sep65 / ORIG REF: 003 / OTH REF: 008

Card 2/2

ACC NR: AP7001492

SOURCE CODE: UR/0192/66/007/006/0883/0885

AUTHOR: Vilkov, L. V.; Mastryukov, V. S.; Zhigach, A. F.; Siryatskaya, V. N.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Electron diffraction study of the neocarborane molecule

SOURCE: Zhurnal strukturnoy khimii, v. 7, no. 6, 1966, 883-885

TOPIC TAGS: neocarborane, molecular structure, electron diffraction, icosahedron, icosahedral model, electron diffraction analysis, isomerization

ABSTRACT: The structure of the neocarborane molecule  $B_{10}C_2H_{12}$  has been studied by the electron diffraction method in the gaseous phase. Neocarborane was prepared by thermal isomerization of ortho-carborane at 480°C for 30 hr. Experimental curves of the molecular scattering component  $sM(s)$  and of the radial distribution  $f(r)$ , and a table of the positions of maxima on the  $f(r)$  curve are given in the source. Experimental data were compared with the respective data for a model of a regular icosahedron with carbon atoms meta to each other. This model was in accordance with earlier assumptions on the structure of neocarborane, and the chemical and physical properties of the compound.

UDC: 539.27

Card 1/2

ACC NR: AP7001492

It was shown that this icosahedral model is in complete agreement with electron diffraction data. The basic parameters of the neocarborane molecule are:  $r(BB) = r(BC) = 1.77 \pm 0.01 \text{ \AA}$ ;  $r(BH) = 1.21 \pm 0.03 \text{ \AA}$ ;  $[r(CH) = 1.10 \text{ \AA}]$ . Orig. art. has: 2 figures and 1 table. [W. A. 77] [BO]

SUB CODE: 07, 21 / SUBM DATE: 16Mar66 / ORIG REF: 005 / OTH REF: 012

Card 2/2

VILKOV, I.V.; ALESHIN, P.A.; S'LOVA, G.Ye.

Electron diffraction study of the molecular structure of triethyl phosphite and trivinyl phosphite in vapors. Zhur. struk. khim. 6 no.3:355-360 My-Je 1965. (MIRA 18:8)

I. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

VILKOV, L.Y., MASTRYUKOV, V.S., AKISHIN, P.A., ZHIGACH, A.F.

Electron diffraction study of the structure of the carbethane  
molecule ( $\text{B}_1\text{O}_2\text{H}_2$ ) in vapors. Zhur. struk. khim. è no. 3247-  
449 My-Je '65. (MIRA 38:3)

С. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova,

VILKOV, L.V.; MASTRYUKOV, V.S.

Electron diffraction study of the structure of the phenylmonochlorosilane  
molecule. Dokl. AN SSSR 162 no.6:1306-1309 Je '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet. Submitted December 31, 1964.

VILKOV, L.V.

Use of the method of least squares in a gas electron diffraction study.  
Zhur. strukt. khim. 5 no.6:809-813 N-D '64. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 63619-65 EPF(c)/EPR/EPA(w)-2/EWP(j)/EMT(1)/EMT(m)/EWA(m)-2 P1-4/Pc-4/Pr-4/PS-4/  
ACCESSION NR: AP5016917 Pz-6 IJP(c)/  
RPL AT/JAI/C. NW UR/0192/65/006/003/0447/0449  
539.27 57 3

AUTHOR: Vilkov, L. V.; Mastryukov, V. S.; Akishin, P. A.; Zhilgach, A. F.

TITLE: Electron-diffraction study of the structure of the carborane molecule in the vapor phase

SOURCE: Zhurnal strukturnoy khimii, v. 6, no. 3, 1965, 447-449

TOPIC TAGS: organoboron compound, carborane, electron diffraction

ABSTRACT: An attempt was made to refine the configuration of  $B_{10}C_2H_{12}$  in the vapor phase. The theoretical curves and an experimental curve of the radial distribution  $f(r)$  were plotted, and the parameters of the theoretical curves are tabulated. Because of the complexity of the carborane molecule, not all of the independent geometric parameters of the molecule were determined. The main peaks of the experimental curve of  $f(r)$  are:  
(1) (1.06 Å), (2) 1.33 Å, (3) 1.76 Å, (4) 2.86 Å, (5) (3.46 Å), and (6) (3.90 Å), the figures in parentheses indicating that the values are not completely reliable. In view of the electron diffraction data for carborane, the authors found it difficult to decide between two models:  
(1) a "basket" with  $r(C-C) = 1.40$  Å and  $r(B-C) = 1.60$  Å, and (2) an "icosahedron" with  $r(C-C) = 1.68$  Å and  $r(B-C) = 1.70$  Å. The main result of the study was the determination of

Card 1/2

L 63619-65

ACCESSION NR: AP5016917

the average length of the bond  $r(B-B)_{av} = 1.76 \pm 0.01$  Å, rotation of pyramids of boron atoms to  $r(B_5-B_{10}) \approx 1.77 \pm 0.05$  Å as compared to  $r(B_5-B_{10}) = 2.01$  Å in decaborane, and distance  $r(B-C) \approx 1.60 \pm 1.70$  Å. The authors also note that they have concluded a study of the structure of the dimethylcarborane molecule  $B_{10}H_{10}(CCH_3)_2$ , in which an icosahedral structure of the carborane skeleton was found with  $r(B-C) = 1.75 \pm 0.05$  Å and  $r(C-C) = 1.70 \pm 0.1$  Å. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 01Sep64

ENCL: 00

SUB CODE: OC, NP

NO REF SOV: 004

OTHER: 013

Card 2/2

VILKOV, L.V.; TIMASHEVA, T.P.

Electron diffraction study of the molecular structure of trivalent  
nitrogen compounds. N-dimethylaniline. Dokl. AN SSSR 161 no.2:351-  
354 Mr '65. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet. Submitted September 1,  
1964.

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VIL'KOV, L.V.; SADOV'A, N.I.

Electron diffraction study of the structure of phenylcyclopropane  
molecules. Pekl. AN SSSR no.2 no.2 565-568 My '65. (MIRA 18:1)

L. Moskovskiy gosudarstvenny universitet im. M.V.Lomonosova.  
Submitted November 9, 1964.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

VILKOV, L.V.; MASTRYUKOV, V.S.; AKISHIN, P.A.

Electron diffraction study of the phenyltrichlorosilane molecule.  
Zhur. strukt. khim. 5 no.6:906-908 N-D '64. (MIRA 18:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

VILKOV, L.V.; GOROKHOV, L.N.; MASTRYUKOV, V.S.; RUSIN, A.D.

Molecular mass and mass spectrum of 1,1-dimethylgermirene vapors.  
Zhur.fiz.khim. 38 no.11:2674-2675 N '64.

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,  
khimicheskiy fakul'tet.

(MIRA 18:2)

VILKOV, N.V.

Determining the permeability of oil-and water-bearing layers by  
S.P. logging. Geol. nefti i gaza 3 no. 7:45-47 Je[1.e. J1] '59.  
(MIRA 12:9)

1. Trest Tatneftegeofizika.  
(Oil well logging, Electric)

SOV/9-59-7-9/15

3(5)

AUTHOR: Vilkov, N.V.

TITLE: Determining of Permeability of Oil and Water-Bearing Strata According to "PS"

PERIODICAL: Geologiya nefti i gaza, 1959, Nr 7, pp 45 - 47 (USSR)

ABSTRACT: The author compared data on the average permeability of water and oil bearing strata of Devonian deposits with data on porosity determined by the "PS" method. He found that there existed a satisfactory correlation between the average permeability and the found porosity. This permits the estimation of permeability of oil and water bearing strata by the "PS" parameter. It is stated that the "PS" method gives better results than other existing methods developed by G.S. Morozov, L.P. Dolina and N.V. Vilkov. Graphs are presented where the permeability of

Card 1/2

SOV/9-59-7-9/15

Determining of Permeability of Oil and Water-Bearing Strata According to "PS"

sand-clay Devonian deposits is plotted versus their porosity, determined by the "PS" method.  
There are: 2 graphs, 5 tables and 1 Soviet reference.

ASSOCIATION: Trest Tatneftegeofizika (Tatneftegeofizika Trust)

Card 2/2

VILKOV, N.V.

Determining the porosity of layers by the PS parameter. Geol.nefti  
2 no.12:60-62 D '58. (MIRA 12:2)  
(Oil well logging, Electric) (Porosity)

VILKOV, V.

Television

TV-3 televisor. Radio no. 4, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

Some data on the biochemical characterization of frost-resistance of various apple species. A. Ya. Kokin and A. G. Vilkova-Malyshieva. *Khichim. Plodov i Ovoshchей, Akad. Nauk S.S.R., Inst. Khichim., Sbornik 3, 90-106* (1953).—Examination of 6 varieties of apples common to Kuchin showed that the most frost-resistant varieties have the lowest activity of peroxidase; high content of starch also correlates with cold-resistance as does the high level of tannins in the leaves.  
G. M. Kosolapoff

VII.0VA, A. J.

340'71. Prevrashchenie otdelnykh fraktsii tassina pri roste i razvitiu chlino-p  
lista. Sbornik nauch. Rabot studentov khrebo-fin. gos. un-ta. vyp. 1, l. 46,  
c. 31-37 - Bibliogr: 8 Nazv

SO: Knizhuaya, Letopis', Vol. 7, 1955

VILKOVA, L.A., assistant

Treatment of desquamative glossitis. Teor. i prak. stom. no.5:  
86-88 '61  
(MIRA 16:12)

1. Iz kafedry terapevticheskoy stomatologii (zav. - prof.  
Ye.Ye. Platonov) Moskovskogo meditsinskogo stomatologicheskogo  
instituta.

VILKOVA, N.A.

*Elachiptera cornuta* Fall. (Diptera, Chloropidae) and its importance as corn pest. Zool. zhur. 41 no.4:586-590 Ap '62.

(MIRA 15:4)

1. All-Union Institute of Plant Protection, Leningrad.  
(Corn (Maize)--Diseases and pests)

SHAPIRO, I.D.; VILKOVA, N.A.

Places of egg laying of the Swedish fly Oscinella frit L. (Diptera,  
Chloropidae). Ent. oboz. 42 no.1:138-150 '63. (MIRA 16:3)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.  
(Frit flies) (Insects--Eggs)

VILKOVA, N.A.

*Elachiptera cornuta* Fall. and its role as a pest of corn and other cereal crops. Vop. ekol. 7:27-28 '62. (MIRA 16:5)

1. Vsesoyuznyy institut zashchity rasteniy, Leningrad.  
(Daghestan--Elachiptera) (Daghestan--Grain--Diseases and pests)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

KOROLEV, P.A.; NIKIFOROV, A.M.; SHAPIRO, I.D.; VILKOVA, N.A.; DROZDOVSKIY, E.M.

Questions and answers. Zashch. rast. ot vred. i bol. 8 no.2;  
39-40 F '63. (MIRA 16;7)

(Plants, Protection of)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

VILKOVA, N.A., aspirantka; KOZLENKO, V.N., fitopatolog (Brazhnoye, Krasnoyarskogo kraya); GULYARENKO, F.N.; RAZVYAZKINA, G.M.; KAPKOVA, Ye.A.; BELYANCHIKOVA, Yu.V.; DZHUMABAYEV, P., aspirant; RASSADINA, Ye.G., aspirant; NIKITINA, M.D., mladshiy nauchnyy sotrudnik; LOGINOVA, K.M., kand.sel'skokhoz.nauk; YUZ'KO, S.L.; PETROVA, N.A.

Brief information. Zashch. rast. ot vred. i bol. 8 no.9:53-57  
S '63. (MIRA 16:10)

1. Vsesoyuznyy institut zashchity rasteniy (for Vilkova, Rassadina).
2. Zaveduyushchiy Lisetskim sortouchastkom, selo Krekhovtsy, Ivanovo-Frankovskoy oblasti (for Gulyarenko). 3. Laboratoriya mikologii Vsesoyuznogo instituta zashchity rasteniy (for Dzhumabayev).
4. Chitinskaya sel'skokhozyaystvennaya opytnaya stantsiya (for Nikitina). 5. Pushkinskaya baza Vsesoyuznogo instituta zashchity rasteniy (for Loginova). 6. Ul'yanovskaya sel'skokhozyaystvennaya opytnaya stantsiya, pochtovoye otdeleniye Isheyevka (for Petrova).

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

MARKMAN, A.L.; VIL'KOVA, S.N.

Changes taking place in gossypol under the influence of thermal  
treatment. Uzb. khim. zhur. no.1:63-68 '60. (MIRA 14:4)

1. Sredneaziatskiy politekhnicheskiy institut.  
(Gossypol)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

ACC NR: AP6006194

SOURCE CODE: UR/0377/65/000/004/0027/0030

AUTHOR: Vil'kova, S. N.; Novikova, I. A.; Alavutdinov, D.

ORG: Physicotechnical Institute, AN UzbSSR, (Fizikotekhnicheskiy institut AN UzSSR)

TITLE: The use of foamed polyurethans for manufacturing solar energy collectors

SOURCE: Geliotekhnika, no. 4, 1965, 27-30

TOPIC TAGS: solar energy, solar energy collector , polyurethane, foamed polyurethane, foamed plastic, plastic mirror, epoxy resin, aluminum filled epoxy resin, energy conversion, solar energy conversion, polyethylene terephthalate

ABSTRACT: A method for making solar energy collectors from rigid foamed polyurethans lined with mirror-like plastic films is described. Polyurethans used for this purpose were prepared from branched polyesters of dicarboxylic acids and triols or the combination of the latter with diols; the polyesters were combined with aromatic diisocyanates. Foamed polyisocyanates were obtained by combining a polyester resin prepared from glycerol (1.3 moles), sebacic acid (0.5 moles) and adipic acid (0.3 moles) with toluylene diisocyanate in a 10:7 ratio at room temperature; water was used to enhance foaming; the foam was stabilized with OP-7 or OP-10 emulsifier (0.3—0.5%). The foamed plastic obtained had good mechanical properties. Two types of solar energy collector were built: one-piece paraboloid collectors with a diameter of 280 or 410 mm, and facet collectors mounted from hexagonal facets with sides 55 mm long each.

Card 1/2

L 22657-66

ACC NR: AP6006194

The one-piece collectors were made as follows: metal-coated poly(ethylene terephthalate) film fixed between a disk and a ring was inflated to the required curvature, thus forming a paraboloid mirror; the mirror was coated with a thin layer of liquid epoxy resin which cured on the inflated film. After that foam was applied on the mirror obtained; polymerization of the foam lasted about 12 hours at room temperature. The weight of the foamed collector of 410 mm diameter was 201 g, while the similar collector made from filled epoxy resin weighed 930—1000 g; the temperature of the heat receiver in the focus of the collector was 880°C; convexity h was 5 cm, and focal length was 21 cm. The facets for the facet collector were prepared by pouring foam into molds. The facets were lined with an epoxy resin mirror, obtained by applying liquid epoxy resin on the aluminum powdered glass. After curing, the film was stripped by heating the mirror on the glass substrate to 160—190°C for 2—3 hr. An experimental model assembled from 19 facets with a total surface of 1444 cm<sup>2</sup> had a focal length of 0.5 cm. The reflection coefficient of the facet was 0.9; the focus point had an area of 150 cm<sup>2</sup>; the temperature of the heat receiver in the focus point was initially 250°C, but decreased to 115°C after 60 days of exposure because of the damage to the mirror surface caused by dirt, dust, and cleaning. The problem of protecting the mirror surface has not yet been solved. The polyurethan substrate retained its high mechanical properties after 60 days of exposure; the color of the foamed plastic changed from light yellow to dark yellow. The expedience of the use of foamed polyurethan for a solar energy collector for the Central Asian climatic conditions was demonstrated. The technology of preparing thin epoxy resin mirror has been developed. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 10, 11/ SUBM DATE: 06Aug65/ ORIG REF: 002/ ATD PRESS: 4216  
Card 2/2 G/H [BN]

VIL'KOVA, S.N.; MARKMAN, A.L.

Luminescence method for determining gossypol. Zhur. prikl. khim.  
31 no.10:1548-1553 0 '58. (MIRA 12:1)

1.Sredneaziatskiy politekhnicheskiy institut.  
(Gossypol--Analysis) (Luminescence)

VIL'KOVA, S.N.

~~Determining the amount of dirt in cotton lint. Dokl. AN Uz.SSR~~  
no. 7:37-40 '58. (MIRA 11:10)

1. Fiziko-tehnicheskiy institut AN UzSSR. Predstavлено членом-  
корреспондентом AN UzSSR Kh.U.Usmanovym,  
(Cotton--Analysis)

VIL'KOVA, S. N.

VIL'KOVA, S. N. -- "Using the Method of Luminescent Analysis to Investigate Gossypol." Min Higher Education U.S.S.R. Central Asia Polytechnic Inst. Tashkent, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

Nо 1  
SO: Knizhnaya Letopis', 1956, pp 102-122, 124

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VIL'KOVA, S.N.; MURYGINA, N.G.

Chromatographic study of cotton stalk lignin. Zhur.prikl.  
khim. 33 no.7:1628-1632 J1 '60. (MIRA 13:7)  
(lignin)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VIL'KOVA, S.N.; MURGINA, N.G.

Irradiation of cotton stalk lignin with  $\gamma$ -rays from Co<sup>60</sup>.  
Zhur.prikl.khim. 33 no.7:1674-1676 Jl '60.  
(MIRA 13:7)

(Lignin) (Gamma rays)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

L 24857-66 EWT(m)/EWP(v)/EWP(j)/T MM/RM

ACC NR: AP6009441 (A) SOURCE CODE: UR/0377/65/000/003/0041/0048

AUTHORS: Umarov, G. Ya. (Candidate of physico-mathematical sciences); Vil'kova,  
S. N.; Ayzenshtat, Ye. L.; Novikova, I. Aai Sutyagina, V. M.

ORG: Physicotechnical Institute, AN UzSSR (Fiziko-tehnicheskiy institut AN  
UzSSR)

TITLE: Producing aluminum mirrors on asbestos cement by the conversion method

SOURCE: Gelotekhnika, no. 3, 1965, 41-48

TOPIC TAGS: solar energy conversion, metal plating, asbestos product, aluminum,  
epoxy plastic, resin, light reflection coefficient/ ED-5 resin

ABSTRACT: The use of low-cost asbestos cement as the body of solar concentrators  
is described. Epoxy resin ED-5 is used to create a smooth surface on one side of  
the cement for metallization. This resin shows a small shrinkage as compared with  
other materials. The resin (15--20 g) with 8% hardener was applied to a 12 x 6-cm  
plate of asbestos cement and was pressed with a steel beam weighing 3 kg. It was  
shown that an optically accurate mirror surface can be created by the conversion  
method (see Fig. 1). A study of the mirror layer showed that its adhesion

Card 1/2

L 24857-66

ACC NR: AP6009441



Fig. 1. Reflection factor before and after (dotted and continuous curves) conversion versus amount of faience flour (a), graphite (b), and sawdust (c) added to resin.

exceeded by a factor of 5--6 the adhesion of a mirror surface produced by vaporization in a vacuum. Causes of fogging of the reflecting surface with time are explained, and methods of their elimination are shown. Orig. art. has: 5 photographs, 1 graph, and 1 table.

SUB CODE: 10, 20/ SUBM DATE: 23Apr65/ ORIG REF: 002

2/2 dda

VILKOVA, T.P.; UTKIN, V.K.

Electrochemical corrosion prevention of tank bottoms. Trudy VII  
MP no.5:168-177 '54. (MLRA 9:8)  
(Corrosion and anticorrosives) (Tanks)

VILKOV, V., inzh.

Special aspects of the lubrication system of the SMD-7 engine. Tekhn.  
v sel'khoz. 20 no.6:56-57 Je '60. (MIRA 13:10)

1. Saratovskiy institut mekhanizatsii sel'skogo khozyaystva imeni M.I.  
Kalinina.

(Lubrication and lubricants)  
(Combines (Agricultural machinery)--Maintenance and repair)

VILKOVA N. A., aspirant

Protecting corn against the Swedish fly. Zashch. rast. ot  
ved. i bol. 6 no.6:37-38 Je '61. (MIRA 16:4)

1. Vsesoyuznyy institut zashchity rasteniy.

(Corn(Maize)—Diseases and pests)  
(Frit flies—Extermination)

GABRILOVICH, A.B.; VILKOVA, V.F.; KOCHAR'YAN, D.N.

Effect of aeration upon the propagation of dysentery bacteriophage.  
Zhur.mikrobiol.epid.i immun. no.4:80 Ap '54. (MLRA 7:5)

1. Iz Rostovskogo-na-Donu instituta epidemiologii i mikrobiologii.  
(Dysentery) (Bacteriophagy)

VILKOVA, V.F.; GABRILOVICH, A.B.

Certain properties of a dysentery bacteriophage produced under conditions  
of aeration. Zmr.mikrobiol.epid.i immun. no.4:80-81 Ap '54. (MLRA 7:5)

1. Iz Rostovskogo-na-Donu instituta epidemiologii i mikrobiologii.  
(Dysentery) (Bacteriophagy)

"APPROVED FOR RELEASE: 09/01/2001

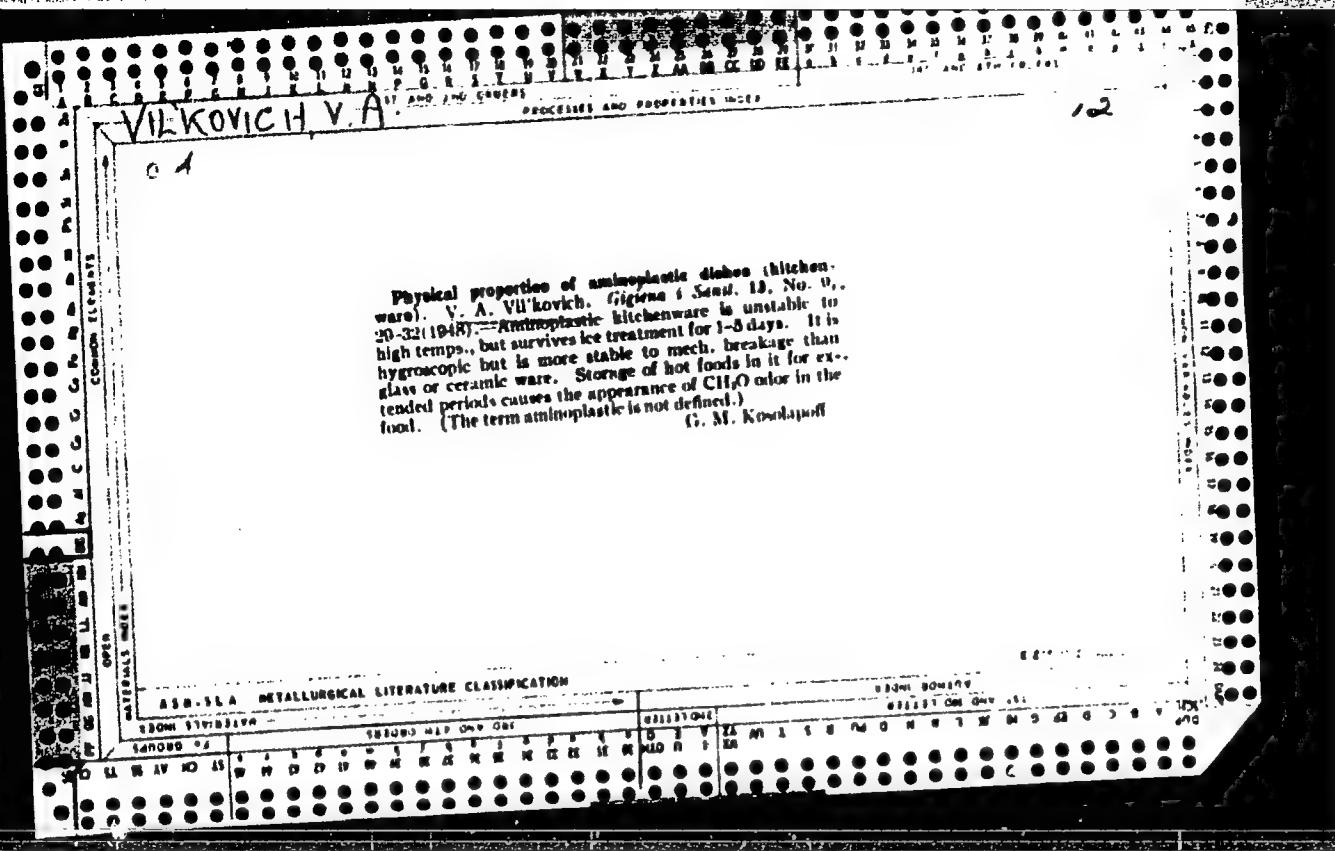
CIA-RDP86-00513R001859820004-4

VIL'KOVETSKIY, G.; ZAV'YALOV, L.

"Ekho" is in operation. Znan.sila 35 no.10:28-29 0'60.  
(MIRA 13:11)  
(Founding) (Metals--Pickling)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"



CA VIL'KOVICH, V.A.

Action of aminoplastic ware on white mice. V. A.  
Vil'kovich. (2nd Moscow Med. Inst.). *Gigiena i Sanit.*  
1950, No. 10, 29.—Introduction of powd. aminoplastic  
resin used in construction of kitchenware into regular diet  
of white mice led to 70-80% fatalities while hot aq. exts.  
as well as cold aq. exts. obtained by placing H<sub>2</sub>O into the  
aminoplastic dishes also led to considerable intoxication.  
G. M. Kosolapoff  
No details are given.

VIL'KOVICH, V.A., kand.med.nauk

Truck-mounted sprayer of the Moscow City Disinfection Station. Zdrav.  
Ros. Feder. 3 no.7:31-33 Jl '59. (MIRA 13:1)

1. Iz Moskovskoy gorodskoy dezinfektsionnoy stantsii (glavnnyy vrach  
I.N. Kudrinskiy) i avtobazy "Skoraya pomoshch'" Mosgorzdravotdela  
(dir. K.G. Ptotsyan).  
(SPRAYING AND DUSTING EQUIPMENT)

TSETLIN, Vitaliy Matveyevich; VIL'KOVICH, Vladimir Abramovich;  
KARON, I.I., red.

[Physicochemical factors of disinfection] Fiziko-khimiche-  
skie faktory dezinfektsii. Moskva, Meditsina, 1965. 235 p.  
(MIRA 18:5)

EXCERPTA MEDICA Sec. 17 Vol. 3/7 Public Health July 57

2069. VIL'KOVICH V. A. 5th Disinfect. Station, Moscow *The iodine-starch method of control check of disinfection using chlorinated compounds*  
(Russian text) Z. MIKROBIOL. 1956, 6 (85-88)

A simple method was worked out for rapid and effective control check of disinfection of various solid surfaces, beds, furniture. During disinfection, part of the chlorine is liberated and becomes fixed on the surfaces; the method is based on the detection of chlorine by means of the iodine-starch reaction. A swab moistened with this reagent is brushed over the treated surface; in the presence of chlorine the streak assumes a blue colour, which disappears if wiped with a piece of cotton moistened with 3% solution of sodium hyposulphite. The method was tested by simultaneous search for Esch. coli; it was absent in 94.9% and chlorine was present in 93.1% of cases. For correct results as many places as possible should be tested. The method is suitable during the first 2 days after disinfection.

Arkaev — Moscow

VIL'KOVICH, V.A.

Iodine-starch method for checking on disinfection with chlorine-containing preparations. Zdr.mikrobiol.epid. i immun. 27 no.6:  
85-88 Je '56. (MLRA 9:8)

1. Iz dezinfektsionnogo otdeleniya No.5 Moskovskoy gorodskoy  
dezinfektsionnoy stantsii.

(DISINFECTANTS ANTISEPTICS  
chlorine-containing, determ. with starch iodide)

(REAGENTS,  
starch iodide, determ. of chlorine-containing antiseptics)

(CHLORINE, determ.  
in antiseptics by starch iodide)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VILKOVISKAYA, F.E.,  
A. A. MITTELSCHLETT, Arch. sci. biol. 46, No. 1, 60-78,  
(1937)

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

ACCESSION NR: AR4032169

S/0058/64/000/002/V011/V011

SOURCE: Ref. zh. Fiz., Abs. 2V84

AUTHORS: Akkerman, A. F.; Vil'koviskiy, E. Ya.; Chekanov, V. N.

TITLE: Use of the method of resonance scattering of Gamma rays to determine the lifetimes of the second excited states of nuclei

CITED SOURCE: Izv. AN KazSSR. Ser. fiz.-matem. n., vy\*p. 2, 1963, Yadern. fiz., 19-30

TOPIC TAGS: second excited state, state lifetime, Gamma resonance scattering, recoil nucleus, recoil nucleus deceleration, differential cross section

TRANSLATION: It is shown in the paper that the lifetimes of the second-excited states of some nuclei can be determined by investigating experimentally the dependence of the cross section of reso-

Card 1/2

ACCESSION NR: AR4032169

nance scattering on the density of the gaseous source, and by comparing the results with the calculations. A procedure is developed for calculating the deceleration of the recoil nuclei in dense gaseous and liquid sources on the basis of the elastic-collision model. The correctness of the elastic-collision model is discussed. The method considered was used to determine the lifetime of the  $4^+$  level (1282 keV) of Cd<sup>114</sup> (RZhFiz 1963, 3V90). An analysis of the possibilities of the proposed method shows that by investigating the dependence of the differential cross section of the resonance scattering on the angle between the outgoing cascade  $\gamma$  quanta with the aid of a coincidence circuit it is possible to increase the accuracy with which the lifetime of the second excited state is determined.

DATE ACQ: 31Mar64

SUB CODE: PH

ENCL: 00

Card 2/2

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VILKOVISSKAYA, E.E.

A.A. MITTELSHTEDT, Bull.biol. med. exptl. URSS 1 (1936) 247-9

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

AKKERMAN, A.F.; VIL'KOVSKIY, E.Ya.; KAIPOV, D.K.; CHEKANOV, V.N.

Measuring the lifetime of the  $4^+$  (1282 Kev.) level of the Cd<sup>114</sup> nucleus by the method of resonance scattering. Zhur. eksp. i teor. fiz. 43 no.4:1268-1271 O '62. (MIRA 15:11)

1. Institut yadernoy fiziki AN Kazakhskoy SSR.  
(Cadmium)  
(Quantum theory)

3/056/62/043/004/021/061  
B102/B100

AUTHORS: Akkerman, A. F., Vil'koviskiy, E. Ya., Kainov, D. N.,  
Chekanov, V. N.

TITLE: Resonance scattering method of measuring the lifetime of the  
 $4^+$  level (1282 kev) of the Cd<sup>114</sup> nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 4(10), 1962, 1268 - 1271

TEXT: The dependence of the resonance scattering cross section on the source density was investigated with six InCl<sub>3</sub> vapor specimens in quartz ampoules enclosed in stainless steel containers, with heating from 500 to 800°C to vary the density. Each ampoule had an In<sup>114</sup> activity of 10 milli-curies. That the whole CdCl<sub>3</sub> molecule undergoes the recoil due to gamma emission in the K-capture, without any destruction of bonds, was confirmed by a special self-absorption experiment.  $q = \frac{ndghc\Gamma}{4[\pi(\Delta_n^2 + \Delta_p^2)]^{1/2}E_0}$ . (2). The relative weakening of the resonance effect as a result of additional

Card 1/3

5/06/62/043/004/021/061

B102/B180

Resonance scattering method ...

scattering in a thin resonance absorber, was measured.  $\Gamma$  is the level width, which is independent of the state of the source molecule,  $n$  the number of atoms per  $\text{cm}^3 \text{Cd}$ ,  $d$  the mean effective scatterer thickness,  $\Delta_n$ ,  $\Delta_d$  are the Doppler widths due to the thermal motion of the absorber and scatterer atoms respectively,  $E$  is the transition energy and  $g$  the spin factor. From  $\Gamma = (4.26 \pm 1.47) \cdot 10^{-4} \text{ ev}$  the mean lifetime of the 557-kev  $2^+$  level of the  $\text{Cd}^{114}$  nucleus was calculated as  $\tau_1 = (1.53 \pm 0.53) \cdot 10^{-11} \text{ sec}$ .  $\tau_2$  the lifetime of the 1202-kev  $4^+$  level was calculated from the experimental curves  $P(E_p) = \psi[\bar{\rho}, \tau_2, \lambda(\rho, d)]$ , where  $P$  is the number of  $\gamma$ -quanta per ev near  $E_p$ ,  $\lambda$  is the mean free path of the  $\text{InCl}_3$  molecules in a medium of density  $\rho$  and collision parameter  $d$ :  $\tau_2 = (7.5 \pm 1.2) \cdot 10^{-12} \text{ sec}$ . The theoretical  $\tau_2$  values are highly dependent on the model used, but are always below  $7.5 \cdot 10^{-12} \text{ sec}$ . A model which takes account of nucleon pair interaction and collective interaction with the surface (Phys. Rev. 114, 1116, 1959) gives the best approach. There are 3 figures.

Card 2/3

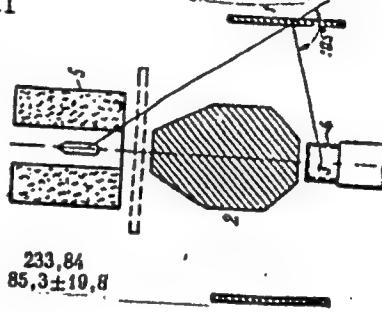
Resonance scattering method ...

3/056/62/043/004/021/061  
B102/B180

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR  
(Institute of Nuclear Physics of the Academy of Sciences of  
the Kazakhskaya SSR)

SUBMITTED: May 29, 1962

Fig. 2. Experimental arrangement. (1) Cylindrical scatterer, (2) shielding lead cone, (3) detector, a NaI(Tl) crystal with ФЕУ-11(ФЕУ-11) photomultiplier, whose pulses were fed to an А3-1(АЗ-1) single-channel pulse-height analyzer; (4) 1.5 mm Pb shield; (5) furnace with source.



$\rho$ , mg/cm <sup>3</sup>	3,85	0,57	21,22	24,55	63,71	233,84
$\sigma$ , mb	$246 \pm 22,3$	$232,6 \pm 21$	$224 \pm 21,4$	$210,9 \pm 27,6$	$188 \pm 18,5$	$85,3 \pm 10,8$

Card 3/3

S/707/62/005/000/010/014  
D290/D308

AUTHORS: Ackerman, A.F., Vil'kovitskiy, E.Ya. and Kaipov, D.K.

TITLE: Doppler broadening of  $\gamma$ -line in gases

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki. Trudy, v. 5. Alma-Ata, 1962. Fizika chastits vysokikh energiy. Struktura yadra, 123-134

TEXT: The authors studied the effect of various factors on the  $\gamma$ -ray microspectra of gaseous sources; these effects are important in resonant scattering experiments with  $\gamma$ -rays. The structure of the microspectrum depends on the Doppler energy shifts of the  $\gamma$ -quanta due to recoils from previous nuclear processes. The authors calculated the separate effects for a preceding  $\beta$ -disintegration, K-capture, and  $\gamma$ -transition, and then combined the results by means of probability theory to find the total effect for two typical disintegration schemes; the method can be applied to more complex and to branched disintegration schemes. The method was used to calculate the microspectrum of the  $\beta$ -decay of  $^{60}\text{Co}$  to  $^{60}\text{Ni}$ . The auth-

Card 1/2

Doppler broadening of ...

S/707/62/005/000/010/014  
D290/D303

ors also studied the effect of thermal motion, chemical shifts, and atomic collisions on the microspectrum. The Doppler shift due to thermal motion was calculated assuming a Maxwellian velocity distribution for the gas molecules; the effect was only appreciable at the edges of the spectrum even at 1500°C. The chemical shift effect is difficult to calculate except in the simplest cases; a rough approximation is given by subtracting the energy of the shift from the recoil energy. The effect of atomic collisions was calculated on the assumption that association is negligible in the gas; that the molecular interactions are elastic, isotropic in the center-of-mass system, and their cross-section is independent of energy; and that the preceding  $\gamma$ -transitions have much shorter lifetimes than the resonant level. The resonant scattering cross-section for  $^{74}\text{Ge}$  was calculated as a function of the density of the  $^{74}\text{As}$  source; the results agree well with experiment. There are 5 figures.

Card 2/2

AKKERMAN, A.F.; VIL'KOVITSKIY, E.Ya.; KAIPOV, D.K.

Doppler widening of the gamma line in gases. Trudy Inst. iad.  
fiz. AN Kazakh. SSR 5:128-134 '62. (MIRA 15:4)  
(Doppler effect) (Gamma rays—Spectra)

VIL'KOVYSKAYA, G.B.; MURONETS, I.I.; PUCHKOV, S.V., kand.fiz.-mat.nauk;  
KRAVCHENKO, I.M., red.; SIMONOVA, A.I., red.; MANOLE, M.G., red.;  
KOLESNIKOVA, A.P., tekhn.red.

[German-Russian geophysical dictionary]. Nemetsko-russkii geo-  
fizicheskii slovar'. Pod red. I.M.Kravchenko, A.I.Simonova.  
Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1959. 409 p. (MIRA 12:5)  
(German language--Dictionaries--Russian)  
(Geophysics--Dictionaries)

DZYAK, V.N., prof.; VIL'KOVSKIY, L.V.

Pharmacodynamics of the Soviet preparation, nitrosorbid,  
and its use in chronic coronary insufficiency. Vrach. delo  
no. 5:23-30 My '62. (MIRA 15:6)

1. Kafedra gospital'noy terapii II (zav. - prof. V.N. Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.  
(CORONARY HEART DISEASES)  
(CARDIOVASCULAR AGENTS)

VILIKOVSKY, VACLAV

Analysy prumyslu bramborarskeho a odvetvi pribuznych. [Vyd. 1.] Praha, Technicko-  
vedecke vydavatelstvi, 1951. 130 p. (Chemicka technologie sv. 6, Dil 2, kapitola 11.  
Technicke rozbery) [Analysis of potato processing and related industries. Illus.,  
bibl., tables]

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, LC., VOL. 3, NO. 1, Jan. 1954, Uncl.

EXCERPTA MEDICA Sec.11 Vol.10/11 Oto-Rhino-Laryng Nov57  
VILKOVOY V. F.

2028. VILKOVOY V. F. Lvov. \*The significance of some peculiarities of the carotid canal and the internal venous carotid plexus in otolaryngological diseases (Russian text) VESTN. OTO-RINO-LARING. 1957, 3 (58-64) Illus. 7

The carotid and its contents were investigated in 100 temporal bones. The lumen of the ascending part of the canal resembles a flattened tube and takes in its horizontal part, a cylindrical form. The direction of the ascending part of the canal in the main coincides with the length of the external auditory meatus. The horizontal part of the canal lies on the base of the cranium, more longitudinal in dolichocephali and almost transversal in brachycephali. The carotid artery occupies an eccentric position in the canal. In the horizontal part of the canal the venous plexus covers the artery on all sides, and in the descending part is concentrated along the external and internal edges of the artery. The dura mater enveloping the artery in the canal, is fixed to the cartilage and bone at the external and internal openings of the canal, thus isolating the epidural space of the canal.

VYIVOVISKAYA, A.I., 30N/15W, 1-1-6

treatment of bronchial asthma with electropycexia. Trudy TSU  
72:82-86 '64.

1. JV kafedra terapii (zav. - prof. P.L. Yegorov) ISentral'nogo  
instituta usovershenstvovaniya zdrav. sery.

The participation of the lungs in carbohydrate metabolism. A. L. Vilkovyskii. *Klin. Med.* (U. S. S. R.) 19, 31 (1947). *Chem. Ztschr.* 1948, I, 1075.—The lungs derive their energy from glycogen which has a position apart from the rest of metabolism. The glucose in the pulmonary vein is higher than that in the arm vein, whereas the reverse is found for glycogen. The blood entering and leaving the lungs shows that during the passage the sugar increases at expense of glycogen.

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"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4

VILKOVISKII, A. L.

24349 VILKOVISKII, A. L. O racyrostraniennii hypertomicheskoy bolezni. Vrachab.  
Delo, 1949, No. 6, STB. 725-2C.

SO: Letopis, No. 32, 1949.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859820004-4"

VILKOVYSKIY, A.L.

Role of a physician in athletics. Sovet. med. 16 no. 11: 26-29 Nov.  
(CLML 23:3)  
1952.

1. Professor. 2. Of the Medical Control Laboratory (Head--Docent  
S. P. Letunov), Central Scientific-Research Institute of Physical  
Culture (Director -- G. I. Kukushkin).

VILKOVISKY, A. L.

Excerpta Medica 8/4 sec 6 April 54 Internal Medicine

487. VILKOVISKY A. L. \* The tasks of a hospital for athletes  
(RUSSIAN TEXT) SOVETSK. MED. 1953, 11 (26-29)  
The organization of a hospital for athletes is discussed with reference to 5 years' experience. The object of these special hospitals is the earlier restoration to health of athletes who break down, the study of certain premorbid conditions in athletes, the observation of peculiar changes in the development of the internal organs during training, and the determination of fitness for athletic activities in certain cases of disease. More than 600 athletes were treated at the hospital in the course of 5 yr. Overtraining existed in 25% of these cases. Conditions observed were apathy, exhaustion, cephalgia, tachycardia, dyspnoea, pain in the cardiac region, cardiac dilatation, increased blood pressure, a shift to the left of the electrical field and a negative T-III. Teleradiography, radiokymography and ECG were systematically used. Rheumatic affections of the cardiac valves were observed in 5 cases; many of these patients had achieved considerable athletic results and had been hospitalized for other affections (sciatica, colitis, etc.) Enlargement of the liver is often observed as a result of overstraining, especially in sprinters and jumpers; in these cases, there exists a special form of hepatosis as a manifestation of insufficient adaptation of the organism. The blood acetylcholine level is increased, the cholesterol decreased. The medical superintendents in these hospitals should be highly trained physicians, with a staff of skilled specialists.

Kraus - Timisoara

VILKOVYSKIY, A.L., professor; YEGOROV, P.I., professor; OSTAPYUK, V.Ye.,  
kandidat meditsinskikh nauk

Clinical evaluation of cardio-omentopexy in disorders of  
coronary circulation. Terap.arkh.27 no.5:45-60 '55 (MLRA 8:12)

1. Iz 4-y kafedry terapii (zav.chlen-korrespondent AMN SSSR  
prof. P.I.Yegorov TSentral'nogo instituta usovershenstvovaniya  
vrachey na base TSentral'noy klinicheskoy bol'niцы Ministerstva  
putey soobshcheniya.

(CORONARY DISEASE, surgery,  
cardio-omentopexy)

VILKOVYSKIY, A.L., KAZANSKITY, V.I.

Blood - Circulation

Development of collateral cardiac circulation in coronary disorders. Klin. med. 30 No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

VILKOVYSKIY, A.L.; KUKOL'YNSKAYA, Ye.V.

[Medical supervision of basketball players] Vrachebnye nabliudeniia  
nad basketbolistami. Moskva, Fizkul'tura i sport, 1956. 62 p.  
(BASKETBALL) (MLRA 10:2)